

# XiaoFeng Wang

## Curriculum Vitae

Informatics West  
901 East 10th Street

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### EDUCATION

2004	Carnegie Mellon University Ph.D. Electrical and Computer Engineering	Pittsburgh, USA
1996	Shanghai Jiao Tong University M.S. Computer Science	Shanghai, PRC
1993	Nanjing University of Aeronautics and Astronautics B.S. Computer Science	Nanjing, PRC

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### PROFESSIONAL EXPERIENCE

1/2010 —	Director, Center for Security Informatics
1/2010 — 12/2010	Program Director, Security Informatics
7/2015 —	Professor
7/2010 — 6/2015	Associate Professor
8/2004 — 6/2010	Assistant Professor
	School of Informatics and Computing Indiana University at Bloomington
1/1997 — 8/1997	IT Specialist Hewlett-Packard Computer Products (Shanghai) Co.Ltd
3/1996 — 1/1997	Software Engineer Shanghai Venus Software co., LTD

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### PROFESSIONAL SERVICE

- Founding organizer (with my colleagues at IU and UCSD): iDASH Genome Privacy Challenges ([www.humangenomeprivacy.org](http://www.humangenomeprivacy.org))
- Program committee member, the USENIX Security Symposium (Security' 17)

- Program Co-Chair, the 11<sup>th</sup> ACM Asia Conference on Computer and Communications Security (ACM AsiaCCS'16)
- Program Chair, the 11<sup>th</sup> International Conference on Security and Privacy in Communication Networks (SecureComm'15)
- Workshop Co-Chair, the 22<sup>nd</sup> ACM Conference on Computer and Communication Security (CCS'15)
- General Chair, the 13<sup>th</sup> Privacy Enhancing Technologies Symposium (PETS'13)
- Associate Editor, IEEE Transactions on Dependable and Secure Computing (TDSC), since December, 2014
- Invited panelist, Security and Privacy Challenges in Health Informatics, the NSF SaTC PI meeting 2015.
- Program committee member, the 17<sup>th</sup> International Symposium on Research in Attacks, Intrusions and Defenses (RAID'15)
- Program committee member, the Annual Network and Distributed System Security Symposium (NDSS' 13, 14, 15, 16, 17)
- Program committee member, the IEEE Symposium on Security and Privacy (S&P'10, 11, 12, 13, 14)
- Program committee member, the International World Wide Web Conference, Security and Privacy Track (WWW'09, 12, 14, 15)
- Member, PET Board.
- Program committee member, the ACM Symposium on Information, Computer and Communications Security (ASIACCS'12)
- Member, PET Award 2012 committee
- Program committee member, the International Conference on Distributed Computing Systems (ICDCS'10, 11)
- Chair, Local arrangement committee, CCS'11  
Member, Patron and Industry Outreach, CCS'10  
Chair, Regional arrangement committee, CCS'09
- Program committee member, the Workshop on Security and Privacy in Medical and Home-Care Systems 2009
- Program committee member, the International Conference on Security and Privacy in Communication Networks (SecureComm'08, 09)
- Program committee member and Session Chair, the ACM Conference on Computer and Communication Security (CCS'08, 10, 15, 16)
- Co-Chair, the I3P Workshop on Insider Threats in the Networked World (2008)

- Local arrangement, the Fifth Midwest Security Workshop (Spring, 2008), Program chair, the Second MSW (Fall, 2006) and program committee members, MSW (2006 – 2008)
- Program committee member, the Fourth International Conference on Information Systems Security (ICISS 2008)
- Program committee member, the Third International Conference on Internet Monitoring and Protection (ICIMP'08)
- Steering committee member, NSF Biomedical Informatics Workshop (2007)
- Program committee member, the Workshop on Privacy in the Electronic Society (WPES'06-08, 12)
- Program committee member, the IEEE International Symposium on Dependable Autonomic and Secure Computing (DASC'06 and '07)
- Program committee member, the 8th International Conference on Information and Communications Security (ICICS '06)
- Program committee member, the 5th International Conference on Cryptology and Network Security (CANS '06)
- Program committee member, the International Workshop on Incentive Based Computing (IBC'05 and '06)
- Program committee member, the 4<sup>th</sup> International Conference on Applied Cryptography and Network Security (ACNS'06)
- Program committee member, the 16<sup>th</sup> Annual International Symposium on Algorithms and Computation (ISAAC'05)
- Program committee member, ACM Workshop on Wireless Security 2005 (WiSe'05).
- Program committee member, the International Joint Conference on Autonomous Agents and Multi Agents Systems (AAMAS'04 and 05).
- Panelist: Attacks on and Security Measures for Ad Hoc Wireless Networks, American Association for the Advancement of Science annual Conference 2005.
- Program committee member of IEEE/ACM First International Workshop on Broadband Wireless Services and Applications (BroadWISE 2004)
- Paper reviewer for the IEEE/ACM Transactions on Networking, the ACM Transactions on Information and System Security, the IEEE Transactions on Dependable and Secure Computing, the IEEE Transactions on Parallel and Distributed Systems, International Journal of Knowledge and Information Systems, the IEEE transactions on Knowledge and Data Engineering, Electronic Commerce Research Journal, ACM Conference on Computer and Communication Security, RSA CT, IEEE INFOCOM, IEEE GLOBECOM, ACM International Conference on Information Security, Workshop on Privacy

Enhancing Technologies, International Conference on Security and Cryptography for Networks, The IEEE International Conference on Communications, Pacific Rim International Workshop on Multiagent Systems, Pacific Rim International Conference on Artificial Intelligence and IFIP World Computer Congress.

- Senior member of IEEE and member of ACM

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## TEACHING EXPERIENCE

Fall 2005-	I430/520 and B649 "Security for Networked Systems" (An upper-level undergraduate and graduate course) Indiana University at Bloomington
Spring 2007-	I521 "Malware: Threat and Defense" (A graduate course) Indiana University at Bloomington
Spring 2006- 2009	I231 "Mathematic Foundations for Cybersecurity" (A second-year undergraduate course) Indiana University at Bloomington
Spring 2005	I400 "Introduction to Information Security" (A third and fourth year undergraduate course) Indiana University at Bloomington
Spring 2002	Teaching assistant for 18440 "Internet Security" (An upper-level undergraduate and graduate course) Carnegie Mellon University

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## INTERNAL SERVICE

1. Facility Committee, Informatics (Fall 2004 – Spring 2006)
2. Faculty Hiring Committee, Informatics (Fall 2004 – Spring 2005, Fall 2008 – Spring 2009, Fall 2011)
3. Admission and Awards Committee, Computer Science (Fall 2004 – )
4. Graduate Admissions and Financial Aid Committee, Informatics (Fall 2006 – Spring 2008, Fall 2014)
5. Graduate Education Committee, Computer Science (Fall, 2010 – 2012, 2014 –)
6. Security Contact for Health Informatics Program (Spring, 2011 – )
7. Chair, Faculty Hiring Committee (security track) (Fall 2013 – Spring 2014)
8. Chair, Admission and Awards Committee, Computer Science (Fall 2014 –)
9. Program Director, Security Informatics Program (2010)
10. Director, Center for Security Informatics (2010 –)

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## IMPACTS OF MY RESEARCH

**My research frequently receives attentions from the mainstream media, including CNN, MSNBC, PC World, Slashdotted, CNet News, etc. Here are the links to incomplete lists of media coverage.**

Genome Privacy Competition:

<https://www.genomeweb.com/informatics/new-community-challenge-seeks-evaluate-methods-computing-encrypted-genomic-data>

<http://www.nature.com/news/extreme-cryptography-paves-way-to-personalized-medicine-1.17174>

MassVet:

<http://sit.soic.indiana.edu/en/2015/09/06/massvet-usenix/>

XARA Threats to Mac OS X and iOS

<http://sit.soic.indiana.edu/en/2015/09/07/xara-ccs/>

Android Secure Upgrading:

<http://www.secureandroidupdate.org/>

Privacy in Dissemination of Human Genomic Data:

[News Release by Ontario's Information and Privacy Commissioner](#) and [BioSpace](#)

Security Analysis of Cashier-as-a-Service Systems:

<http://www.informatics.indiana.edu/xw7/impacts/CaaS.htm>

Sound Malware for Android Phones

<http://www.informatics.indiana.edu/xw7/impacts/Soundcomber.htm>

Facebook Authorization Flaw

<http://www.informatics.indiana.edu/xw7/impacts/Facebook.htm>

Side-Channel Information Leaks in Web Applications

<http://www.informatics.indiana.edu/xw7/impacts/SideChannel.htm>

Puzzle Auction

<http://www.informatics.indiana.edu/xw7/impacts/PuzzleAuction.htm>

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## HONORS

2016 Best Paper Award in Applied Cyber Security Research, 3<sup>rd</sup> Place, CSAW'16 (NYU-Poly Cyber Security Awareness Week): for the work on cyber threat intelligence gathering

- 2014 Best Paper Award in Applied Cyber Security Research, 3<sup>rd</sup> Place, CSAW'14 (NYU-Poly Cyber Security Awareness Week): for the work on security risks in Android customization
- 2014 [Third place in National Security Innovation Competition](#): for the work on Android secure upgrading
- 2013 [Finalist](#) for the Best Applied Security Paper Award, CSAW'13 (NYU-Poly Cyber Security Awareness Week): for the work on dedicated hosts on malicious web infrastructures
- 2011 Award for Outstanding Research in Privacy Enhancing Technologies ([the PET Award](#)): for my research on Genome Privacy
- 2011 PET Award runner-up: for my research on side-channel information leaks in web applications
- 2011 Best Practical Paper Award, the 32<sup>nd</sup> IEEE Symposium on Security and Privacy: for my research on logic flaws in hybrid web applications
- 2006 Fast-track submission to the ACM Transactions on Information System Security as one of the best papers of the ACM Conference on Computer and Communications Security 2006: for my work on malware detection and prevention
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## **SELECTED INVITED TALKS**

- 2016 Keynote at the 10<sup>th</sup> Central Area networking and Security Workshop (CANSec'16).
- 2016 Invited seminar, Chinese University of Hong Kong
- 2016 Seminar talk, Northwestern University
- 2016 Seminar talk, University of Southern California
- 2015 Seminar, Northeastern University
- 2014 TRUST Security Seminar, University of California, Berkeley
- 2014 Invited talk. Narus Inc.
- 2014 Seminar talk. Purdue University
- 2013 Seminar talk. University of Maryland at College Park
- 2013 Seminar talk. University of Texas at Austin
- 2013 Invited talk. Chinese Academy of Sciences, China
- 2012 Invited talk. Microsoft Faculty Summit
- 2012 Invited talk. Computer Science Center, Shangdong Academy of Sciences, China

2012 Invited talk. Computer Science, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

2012 Seminar talk. Computer Science, University of Illinois at Urbana-Champaign

2011 Invited talk. IBM T. J. Watson Research Center

2011 Seminar talk. CyLab, Carnegie Mellon University

2011 Seminar talk. Computer Science Department, North Carolina State University

2010 CERIAS seminar talk, Purdue University.

2010 IPAM Workshop on Statistical and Learning- Theoretic Challenges in Data Privacy

2009 Invited talk. Microsoft Research Asia.

2009 CERIAS seminar, Purdue University.

2008 Seminar talk. Computer Science Department, North Carolina State University.

2008 Seminar talk. Computer Science Department, Indiana University and Purdue University at Indianapolis.

2005 Panel: Attacks on and Security Measures for Ad Hoc Wireless Networks, American Association for the Advancement of Science annual Conference.

2002 Invited talk. Workshop on Multi-Agent Learning: Theory and Practice.

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## **CURRENT AND PAST GRANTS**

**Total: around \$8.6 million; my share: around \$4.73 million**

- NIH U01 (1U01EB023685-01): “Encryption Methods and Software for Privacy-Preserving Analysis of Biomedical Data”  
Role: MPI (one of the two PIs on the project)  
Amount: \$1,395,515  
Time: From 9/30/2016 to 6/30/2019  
(Subcontract to UCSD: \$453,137)
- NSF-CNS-1618493: “TWC: Small: Safeguarding Mobile Cloud Services: New Challenges and Solutions”  
Role: Sole PI  
Amount: \$499,968  
Time: From 9/01/2016 to 8/31/2019
- Army Research Office: “How to Compose Security Protection for Third-Party Applications”  
Role: PI  
Amount: \$550,000  
Time: From 3/01/2016 to 2/28/2019  
(Subcontract to Purdue: \$252,999)

- Gift Grant from Samsung Research  
Role: Sole PI  
Amount: \$50,000
- NSF-CNS-1527141: “TWC: Small: Understanding and Mitigating the Security Hazards of Mobile Fragmentation”  
Role: Sole PI  
Amount: \$498,897  
Time: From 10/01/2015 to 9/30/2018
- NSF-CNS-1408874: “TWC: Medium: Collaborative: Broker Leads for Privacy-Preserving Discovery in Health Information Exchange”  
Role: IU PI (the project is led by UIUC)  
Amount: \$360,000 (total \$1.05 million)  
Time: From 9/01/2014 to 8/31/2018
- NIH R01 (1R01HG007078-01): “Privacy Preserving Technologies for Human Genome Data Analysis and Dissemination”  
Role: Contact PI (Project Leader)  
Amount: \$900,000  
Time: From 9/23/2013 to 6/30/2016  
(Subcontract to UCSD: \$272,025)
- NSF-CNS-1223495: “TWC: Small: Secure Data-Intensive Computing on Hybrid Clouds”  
Role: PI  
Amount: \$500,000  
Time: From 9/01/2012 to 8/31/2015
- NSF-CNS-1223477: “TWC: Small: Knowing Your Enemy: Understanding and Counteracting Web Malvertising”  
Role: Sole PI  
Amount: \$478,160  
Time: From 9/01/2012 to 8/31/2015
- NSF-CNS-1117106: "TC: Small: Plugging Logic Loopholes in Hybrid Web Applications to Secure Web Commerce"  
Role: Sole PI  
Amount: \$499,987  
Time: From 9/01/2011 to 8/31/2014
- NSF-CNS-1017782: “TC: Small: Reining in Side-Channel Information Leaks in the Software-as-a-Service Era”  
Role: Sole PI  
Amount: \$494,110  
Time: From 9/01/2010 to 8/31/2014



- Gift Grant from Microsoft Research  
Role: Sole PI  
Amount: \$10,000
- NSF-CNS-0716292: "CT-ISG: Automatic Generation of Vaccine Exploits to Protect Commodity Software"  
Role: Sole PI  
Amount: \$320,000  
REU Supplemental Award: \$19,200  
Time: From 9/01/2007 to 8/31/2011
- AFRL SBIR Phase III, Net-Centric Sensor Grids, FA8650-09-D-1639: "Advanced Cloud Computing Technology for Sensor Grids"  
Role: Co-PI  
Amount: \$726,000  
Time: From 7/1/2009 to 6/30/2010
- CACR Internal Grant (Gift from the Lilly Endowment Inc.) "Evaluation and Mitigation of Privacy Risks in Human Genome Research"  
Role: PI  
Amount: \$49,901.40  
Time: From 7/01/2009 to 6/30/2010
- I3P/DHS: "Mitigating Insider Threat with Incentives" (IU part of the project "Human Behavior, Insider Threat and Awareness")  
Role: PI  
Amount: \$370,233.63  
Time: From 4/01/2007 to 7/31/2009
- NSF-IIS-064621: "NSF Frontiers in Health Information Delivery Workshop"  
Role: Co-PI  
Amount: \$99,920  
Time: From 10/01/2006 to 10/31/2007
- NSF-IIS-0549313: "A Test-bed for Personalized, Privacy-preserving and High Quality Health Information Delivery"  
Role: Co-PI  
Amount: \$100,000  
Time: From 09/15/2005 to 08/31/2007

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## PRESENTATIONS AT INDUSTRY CONFERENCES

- 2016 “Discovering and Exploiting Novel Security Vulnerabilities in Apple Zeroconf”. Black Hat USA (Presented by L. Xing and X. Bai)
- 2016 “Dangerous Hare: Hanging Attribute References Hazards Due to Vendor Customization”. Black Hat USA (Presented by N. Zhang)

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## PATENTS

- 1. X. Wang, H. Tang, Y. Chen and B. Peng, “Secure and Scalable Mapping of Human Sequencing Reads on Hybrid Clouds”. US9276911
- 2. Y. Xie, F. Yu, Z. Li and X. Wang, “Determining Legitimate and Malicious Advertisements Using Advertising Delivery Sequences”. US20130339158 A1

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## RESEARCH AREAS

Data-Centric Security, Mobile Security, Healthcare Security and Privacy (Human Genome Privacy in particular), Cloud and Web Security, Game-Theoretic Incentive Engineering and its Application to Information Security

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## PUBLICATIONS

**I am considered to be among top 10 authors on leading security venues for the past 10 years, according to the statistics: <http://s3.eurecom.fr/~balzarot/notes/top4/index.html>**

- 1. S. Alrwais, X. Liao, X. Mi, P. Wang, X. Wang, F. Qian and R. Beyah, D. McCoy, 2017 “Under the Shadow of Sunshine: Understanding and Detecting BulletPoof Hosting on Legitimate Service Provider Networks”. Accepted by the 38<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P)
- 2. Y. Lee, T. Li, N. Zhang, S. Demetriou, M. Zha, X. Wang, K. Chen, X. Zhou, X. Han, M. Grace, 2017 “Ghost Installer in the Shadow: Security Analysis of App Installation on Android”. Accepted by the 47<sup>th</sup> IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2017)
- 3. X. Liu, T. Chen, F. Qian, Z. Guo, F. Lin, X. Wang, K. Chen, 2017 “Characterizing Smartwatch Usage in the Wild”. Accepted by the 15<sup>th</sup> ACM International Conference on Mobile Systems, Applications, and Services (ACM MobiSys)
- 4. X. Pan, X. Wang, Y. Duan, X. Wang, H. Ying, 2017 “Dark Hazard: Learning-based, Large-Scale Discovery of Hidden Sensitive Operations in Android Apps”. In

- Proceedings of the 23<sup>rd</sup> Annual Network and Distributed System Security Symposium (NDSS)
5. Y. Nan, Z. Yang, M. Yang, S. Zhou, Y. Zhang, G. Gu, X. Wang, L. Sun, 2017 “Identifying User-Input Privacy in Mobile Applications at a Large Scale”. In Proceedings of the IEEE Transactions on Information Forensics & Security. (Extension of 21)
  6. X. Mi, F. Qian and X. Wang, 2016 “SMig: Stream Migration Extension for HTTP/2”. In Proceedings of the 12<sup>th</sup> International Conference on Emerging Networking Experiments and Technologies (CoNEXT).
  7. S. Alrwais, K. Yuan, E. Alowaisheq, X. Liao, A. Oprea, X. Wang and Z. Li, 2016 “Catching Predators at Watering Holes: Finding and Understanding Strategically Compromised Websites”. In Proceedings of the 32<sup>nd</sup> Annual Computer Security Applications Conference (ACSAC).
  8. X. Liao, K. Yuan, X. Wang, Z. Li, L. Xing and R. Beyah, 2016 “Acing the IOC Game: Toward Automatic Discovery and Analysis of Open-Source Cyber Threat Intelligence”. In Proceedings of the 23<sup>rd</sup> ACM Conference on Computer and Communications Security (CCS)
  9. X. Liao, S. Alrwais, K. Yuan, L. Xing, X. Wang, S. Hao and R. Beyah, 2016 “Lurking Malice in the Cloud: Understanding and Detecting Cloud Repository as a Malicious Service”. In Proceedings of the 23<sup>rd</sup> ACM Conference on Computer and Communications Security (CCS)
  10. X. Bai, L. Xing, N. Zhang, X. Wang, X. Liao, T. Li and S. Hu, 2016 “Staying Secure and Unprepared: Understanding and Mitigating the Security Risks of Apple ZeroConf”. In Proceedings of the 36<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P)
  11. K. Chen, X. Wang, Y. Chen, P. Wang, Y. Lee, X. Wang, B. Ma, A. Wang, Y. Zhang, W. Zou, 2016 “Following Devil’s Footprints: Cross-Platform Analysis of Potentially Harmful Libraries on Android and iOS”. In Proceedings of the 36<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P)
  12. X. Liao, K. Yuan, X. Wang, Z. Pei, H. Yang, J. Chen, H. Duan, K. Du, E. Alowaisheq, S. Alrwais, L. Xing and R. Beyah, 2016 “Seeking Nonsense, Looking for Trouble: Efficient Promotional-Infection Detection through Semantic Inconsistency Search”. In Proceedings of the 36<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P)
  13. S. Li, N. Bandeira, X. Wang and H. Tang, 2016 “On the Privacy Risks of Sharing Clinical Proteomics Data”. In Proceedings of AMIA 2016 Joint Summits on Translational Science
  14. V. Bindschaedler, M. Naveed, X. Pan, X. Wang and Y. Huang, 2015 “Practicing Oblivious Access on Cloud Storage: the Gap, the Fallacy and the New Way Forward”. In Proceedings of the 22<sup>nd</sup> ACM Conference on Computer and Communications Security (CCS).
  15. Y. Chen, T. Li, X. Wang, K. Chen and X. Han, 2015 “Perplexed Messengers from the Cloud: Automated Security Analysis of Push-Messaging Integrations”. In Proceedings of the 22<sup>nd</sup> ACM Conference on Computer and Communications Security (CCS)
  16. Y. Aafer, N. Zhang, Z. Zhang, X. Zhang, K. Chen, X. Wang, X. Zhou, W. Du and M. Grace, 2015 “Hare Hunting in the Wild Android: A Study on the Threat of Hanging

- Attribute References”. In Proceedings of the 22<sup>nd</sup> ACM Conference on Computer and Communications Security (CCS)
17. X. Wang, Y. Huang, Y. Zhao, H. Tang, X. Wang and D. Bu, 2015 “Efficient Genome-Wide, Privacy-Preserving Similar Patient Query based on Private Edit Distance”. In Proceedings of the 22<sup>nd</sup> ACM Conference on Computer and Communications Security (CCS)
  18. L. Xing, X. Bai, T. Li, X. Wang, K. Chen, X. Liao, S. Hu and X. Han, 2015 “Cracking App Isolation on Apple: Unauthorized Cross-App Resource Access on MAC OS X and iOS”. In Proceedings of the 22<sup>nd</sup> ACM Conference on Computer and Communications Security (CCS)
  19. Y. Chen, V. Bindschaedler, X. Wang, S. Berger and D. Pendarakis, 2015, “Elite: Automatic Orchestration of Elastic Detection Services to Secure Cloud Hosting”, In Proceedings of the 18th International Symposium on Research in Attacks, Intrusions and Defenses (RAID).
  20. K. Chen, P. Wang, Y. Lee, X. Wang, N. Zhang, H. Huang, W. Zou and P. Liu, 2015 “Finding Unknown Malice in 10 Seconds: Mass Vetting for New Threats at the Google-Play Scale”. In Proceedings of the 24<sup>th</sup> USENIX Security Symposium (Security).
  21. Y. Nan, M. Yang, Z. Yang, S. Zhou, G. Gu and X. Wang, 2015 “UIPicker: User-Input Privacy Identification in Mobile Applications”. In Proceedings of the 24<sup>th</sup> USENIX Security Symposium (Security)
  22. N. Zhang, K. Yuan, M. Naveed, X. Zhou and X. Wang, 2015 “Leave Me Alone, App-level Protection Against Runtime Information Gathering on Android”. In Proceedings of the 36<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P)
  23. S. Demetriou, X. Zhou, M. Naveed, Y. Lee, K. Yuan, X. Wang and C. Gunter, 2015 “What’s in Your Dongle and Bank Account? Mandatory and Discretionary Protection of Android External Resources”. In Proceedings of the 21<sup>st</sup> Annual Network and Distributed System Security Symposium (NDSS)
  24. Y. Zhao, X. Wang, X. Jiang, L. Ohno-Machado and H. Tang, 2015 “Choosing Blindly but Wisely: Differentially Private Solicitation of DNA Datasets for Disease Marker Discovery”. Journal of the American Medical Informatics Association (JAMIA)
  25. M. Naveed, S. Agrawal, M. Prabhakaran, X. Wang, E. Ayday, J. Hubaux and C. Gunter, 2014 “Controlled Functional Encryption”. In Proceedings of the 21<sup>st</sup> ACM Conference on Computer and Communications Security (CCS)
  26. T. Li, X. Zhou, L. Xing, Y. Li, M. Naveed, X. Wang and X. Han, 2014 “Mayhem in the Push Clouds: Understanding and Mitigating Security Hazards in Mobile Push-Messaging Services”. In Proceedings of the 21<sup>st</sup> ACM Conference on Computer and Communications Security (CCS)
  27. S. Alrwais, K. Yuan, E. Alowaisheq, Z. Li and X. Wang, 2014 “Understanding the Dark Side of Domain Parking”. In Proceedings of the 23<sup>rd</sup> USENIX Security Symposium (Security).
  28. L. Xing, X. Pan, R. Wang, K. Yuan and X. Wang, 2014 “Upgrading Your Android, Elevating My Malware: Privilege Escalation Through Mobile OS Updating”. In Proceedings of the 35<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P).

29. X. Zhou, Y. Lee, N. Zhang, M. Naveed and X. Wang, 2014 “The Peril of Fragmentation: Security Hazards in Android Device Driver Customizations”. In Proceedings of the 35<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P).
30. Z. Li, S. Alrwais, X. Wang and E. Alowaisheq, 2014 “Hunting the Red Fox Online: Understanding and Detection of Mass Redirect-Script Injections”. In Proceedings of the 35<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P)
31. A. Zhang, X. Xie, K. Chang, C. Gunter, J. Han, X. Wang, 2014 “Privacy Risk in Anonymized Heterogeneous Information Networks”. In Proceedings of the 16<sup>th</sup> International Conference on Extending Database Technology (EDBT)
32. C. Lin, H. Li, X. Zhou and X. Wang, 2014 “Screenmilk: How to Milk Your Android Screen for Secrets”. In Proceedings of the 20<sup>th</sup> Annual Network and Distributed System Security Symposium (NDSS).
33. M. Naveed, X. Zhou, S. Demetriou, X. Wang and C. Gunter, 2014 “Inside Job: Understanding and Mitigating the Threat of External Device Misbonding on Android”. In Proceedings of the 20<sup>th</sup> Annual Network and Distributed System Security Symposium (NDSS).
34. A. Das, J. Bonneau, M. Caesar, N. Borisov and X. Wang, 2014 “The Tangled Web of Password Reuse”. In Proceedings of the 20<sup>th</sup> Annual Network and Distributed System Security Symposium (NDSS).
35. F. Zhang, W. He, Y. Chen, Z. Li, X. Wang, S. Chen and X. Liu, 2013 “Thwarting Wi-Fi Side-Channel Analysis through Traffic Demultiplexing”. IEEE Transactions on Wireless Communications, Volume 13, Issue 1.
36. X. Zhou, S. Demetriou, D. He, N. Muhammad, X. Pan, X. Wang, C. Gunter and K. Nahrstedt, 2013 “Identity, Location, Disease and More: Inferring Your Secrets from Android Public Resources”. In Proceedings of the 20<sup>th</sup> ACM Conference on Computer and Communications Security (CCS).
37. R. Wang, L. Xing, X. Wang and S. Chen, 2013 “Unauthorized Origin Crossing on Mobile Platforms: Threats and Mitigation”. In Proceedings of the 20<sup>th</sup> ACM Conference on Computer and Communications Security (CCS).
38. Z. Li, S. Alrwais, Y. Xie, F. Yu and X. Wang, 2013 “Finding the Linchpins of the Dark Web: a Study on Topologically Dedicated Hosts on Malicious Web Infrastructures”. In Proceedings of the 34<sup>th</sup> IEEE Symposium on Security and Privacy (IEEE S&P).
39. L. Xing, Y. Chen, X. Wang and S. Chen, 2013 “InteGuard: Toward Automatic Protection of Third-Party Web Service Integrations”. In Proceedings of the 20<sup>th</sup> Annual Network and Distributed System Security Symposium (NDSS).
40. Z. Li, K. Zhang, Y. Xie, F. Yu and X. Wang, 2012 “Knowing Your Enemy: Understanding and Detecting Malicious Web Advertising”. In Proceedings of the 19<sup>th</sup> ACM Conference on Computer and Communications Security (CCS).
41. R. Wang, S. Chen and X. Wang, 2012 “Signing Me onto Your Accounts through Facebook and Google: a Traffic-Guided Security Study of Commercially Deployed Single-Sign-On Web Services”. In Proceedings of the 33<sup>rd</sup> IEEE Symposium on Security and Privacy (IEEE S&P).
42. Y. Chen, B. Peng, X. Wang and H. Tang, 2012 “Large-Scale Privacy-Preserving Mappings of Human Genomic Sequences on Hybrid Clouds”. In Proceedings of the 19<sup>th</sup> Annual Network and Distributed System Security Symposium (NDSS).

43. K. Zhang, X. Zhou, Y. Chen, X. Wang and Y. Ruan, 2011 "Sedic: Privacy-Aware Data Intensive Computing on Hybrid Clouds". In Proceedings of the 18<sup>th</sup> ACM Conference on Computer and Communications Security (CCS).
44. X. Zhou, B. Peng, Y. Li, Y. Chen, H. Tang and X. Wang, 2011 "To Release or Not to Release: Evaluating Information Leaks in Aggregate Human-Genome Data". In Proceedings of European Symposium on Research in Computer Security (ESORICS).
45. R. Wang, S. Chen, X. Wang, and S. Qadeer, 2011 "How to Shop for Free Online – Security Analysis of Cashier-as-a-Service Based Web Stores". In Proceedings of the 32<sup>nd</sup> IEEE Symposium on Security and Privacy (IEEE S&P Oakland).
46. D. Liu, N. Li, X. Wang and J. Camp, 2011 "Security Risk Management Using Incentives". IEEE Security & Privacy Magazine, Vol. 9, Num. 6. (Extension of 47)
47. D. Liu, N. Li, X. Wang and J. Camp, 2011 "Beyond Risk-Based Access Control: Towards Incentive-Based Access Control". Short paper. In Proceedings of the 15<sup>th</sup> International Conference on Financial Cryptography and Data Security (FC).
48. R. Schlegel, K. Zhang, X. Zhou, M. Intwala, A. Kapadia and X. Wang, 2011 "Soundcomber: A Stealthy and Context-Aware Sound Trojan for Smartphones". In Proceedings of the 18<sup>th</sup> Annual Network and Distributed System Security Symposium (NDSS).
49. A. Kapadia, S. Myers, X. Wang and G. Fox. 2011 "Toward Securing Sensor Clouds". In Proceedings of the 12<sup>th</sup> International Symposium on Collaborative Technologies and Systems (CTS).
50. Z. Li and X. Wang, 2010 "FIRM: Capability-based Inline Mediation of Flash Behaviors". In Proceedings of the 26<sup>th</sup> Annual Computer Security Applications Conference (ACSAC).
51. K. Zhang, Z. Li, R. Wang, X. Wang and S. Chen, 2010 "Sidebuster: Automated Detection and Quantification of Side-Channel Leaks in Web Application Development". In Proceedings of the 17<sup>th</sup> ACM Conference on Computer and Communications Security (CCS).
52. Z. Li, K. Zhang and X. Wang, 2010 "Mash-IF: Practical Information-Flow Control within Client-side Mashups". In Proceedings of the 40<sup>th</sup> Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN).
53. A. Kapadia, S. Myers, X. Wang and G. Fox. 2010 "Secure Cloud Computing with Brokered Trusted Sensor Networks". In Proceedings of the 11<sup>th</sup> International Symposium on Collaborative Technologies and Systems (CTS).
54. S. Chen, R. Wang, X. Wang and K. Zhang, 2010 "Side-Channel Leaks in Web Applications: a Reality Today, a Challenge Tomorrow". In Proceedings of the 31<sup>st</sup> IEEE Symposium on Security and Privacy (IEEE S&P Oakland).
55. X. Wang, P. Golle, M. Jakobsson and A. Tsow, 2009 "Deterring Voluntary Trace Disclosure in Re-encryption Mix Networks". The ACM Transactions on Information and System Security (TISSEC). (Extension of 79)
56. R. Wang, X. Wang, Z. Li, H. Tang, M. Reiter and Z. Dong, 2009 "Privacy-Preserving Genomic Computation Through Program Specialization". In Proceedings of the 16<sup>th</sup> ACM Conference on Computer and Communications Security (CCS)

57. R. Wang, Y. Li, X. Wang, H. Tang and X. Zhou, 2009 "Learning Your Identity and Disease from Research Papers: Information Leaks in Genome Wide Association Study". In Proceedings of the 16<sup>th</sup> ACM Conference on Computer and Communications Security (CCS)
58. K. Zhang and X. Wang, 2009 "Peeping Tom in the Neighborhood: Keystroke Eavesdropping on Multi-user Systems". In Proceedings of the USENIX Security Symposium (Security)
59. C. Kolbitsch, P. Milani, C. Kruegel, E. Kirda, X. Zhou and X. Wang, 2009 "Effective and Efficient Malware Detection at the End Host". In Proceedings of the USENIX Security Symposium (Security)
60. D. Liu, L. J Camp and X. Wang, 2009 "Mitigating Insider Threats with Incentives". In Proceedings of the 13th International Conference on Financial Cryptography and Data Security (FC).
61. X. Wang, Z. Li and R. Wang. 2008 "Leapfrog: Protecting Sensitive Information within Commodity Applications". IU-CS TR670.
62. J. Li, N. Li, X. Wang and T. Yu, 2008 "Denial of Service Attacks and Defenses in Decentralized Trust Management". The International Journal of Information Security (IJIS). (Extension of 77)
63. X. Wang and M. Reiter. 2008 "Using Web-Referral Architecture to Mitigate Denial-of-Service Threats". The IEEE Transactions on Dependable and Secure Computing (TDSC). (Extension of 76)
64. D. Liu, X. Wang and L. J. Camp, 2008 "Game-theoretic Modeling and Analysis of Insider Threats". International Journal of Critical Infrastructure Protection. (Extension of 68)
65. R. Wang, X. Wang, K. Zhang and Z. Li. 2008 "Towards Automatic Reverse Engineering of Security Configurations". In Proceedings of the 15<sup>th</sup> ACM Conference on Computer and Communications Security (CCS).
66. R. Wang, X. Wang and Z. Li. 2008 "Panalyst: Privacy-Aware Remote Error Analysis". In Proceedings of the 17<sup>th</sup> USENIX Security Symposium (Security).
67. Z. Li, X. Wang, Z. Liang and M. Reiter. 2008 "AGIS: Automatic Generation of Infection Signatures". In Proceedings of the 38<sup>th</sup> Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN).
68. D. Liu, X. Wang and L. J. Camp. 2008 "Game Theoretic Modeling and Analysis of Insider Threats". In Proceedings of IFIP WG 11.10 International Conference on Critical Infrastructure Protection.
69. C. Richard, G. Philippe, M. Jakobsson, L. Wang and X. Wang. 2008 "Making CAPTCHAs Clickable". In Proceedings of Workshop on Mobile Computing Systems and Applications (HotMobile).
70. X. Wang, Z. Li, N. Li and J. Choi. 2008 "PRECIP: Towards Practical and Retrofittable Confidential Information Protection". In Proceedings of the 15<sup>th</sup> Annual Network and Distributed System Security Symposium (NDSS).
71. X. Wang. 2008 "Case Study: A Defense-in-Depth Framework Against Spyware". A book chapter in the book "Crimeware", edited by M. Jakobsson and Z. Ramzan, Addison-Wesley Professional.

72. X. Wang, Z. Li, J. Xu, M. Reiter, C. Kil and J. Choi. 2008 "Fast and Black-box Exploit Detection and Signature Generation for Commodity Software". *The ACM Transactions on Information and System Security (TISSEC)*. (Extension of 75)
73. X. Wang and M. Reiter. 2007 "A Multi-layer Framework for Puzzle-based Denial-of-Service Defense". *International Journal of Information Security*, August 2007. (Extension of 84 and 82)
74. Z. Li, X. Wang and J. Choi. 2007 "Spyshield: Preserving privacy from spyware add-ons". In *Proceedings of the Recent Advance in Intrusion Detection (RAID)*.
75. X. Wang, Z. Li, J. Xu, M. Reiter, C. Kil and J. Choi. 2006 "Packet Vaccine: Black-box Exploit Detection and Signature Generation". In *Proceedings of the 13<sup>th</sup> ACM Conference on Computer and Communications Security (CCS)*.
76. X. Wang and M. Reiter. 2006 "WRAPS: Denial-of-Service Defense through Web Referrals". In *Proceedings of the 25<sup>th</sup> IEEE Symposium on Reliable Distributed Systems (SRDS)*.
77. J. Li, N. Li, X. Wang, and T. Yu. 2006 "Denial of Service Attacks and Defenses in Decentralized Trust Management". In *Proceedings of the Second International Conference on Security and Privacy in Communication Networks (SecureComm)*.
78. Y. Li, J. Mostafa and X. Wang. 2006 "A Privacy Enhancing Infomediary for Retrieving Personalized Health Information from Web". *SIGIR 2006 Workshop on Personal Information Management*.
79. P. Golle, X. Wang, M. Jakobsson and A. Tsow. 2006 "Deterring Voluntary Trace Disclosure in Re-encryption Mix Networks". In *Proceedings of IEEE Symposium on Security and Privacy (IEEE S&P Oakland)*.
80. M. Reiter, X. Wang and M. Wright. 2005 "Building a Reliable Mix Network through Fair Exchange". In *Proceedings of the 3<sup>th</sup> International Conference on Applied Cryptography and Network Security (ACNS2005)*. LNCS 3531, Springer-Verlag.
81. M. Jakobsson, X. Wang and S. Wetzel. 2004 "Stealth Attacks on Vehicular Wireless Networks". Invited paper. In *Proceedings of IEEE Vehicular Technology Conference 2004-Fall "Wireless Technologies for Global Security" (VTC)*.
82. X. Wang, M. Reiter. 2004 "Mitigating Bandwidth-Exhaustion Attacks using Congestion Puzzles". In *Proceedings of the 11<sup>th</sup> ACM Conference on Computer and Communications Security (CCS)*.
83. M. Reiter, X. Wang. 2004 "Fragile Mixing". In *Proceedings of 11<sup>th</sup> ACM Conference on Computer and Communications Security (CCS)*.
84. X. Wang and M. Reiter. 2003. "Defending Against Denial-of-Service Attacks with Puzzle Auctions", In *Proceedings of IEEE Symposium on Security and Privacy (IEEE S&P Oakland)*.
85. X. Wang, T. Sandholm. 2003. "Learning Near-Pareto-Optimal Conventions in Polynomial Time". *Proceedings of the 17<sup>th</sup> Neural Information Processing Systems: Natural and Synthetic conference (NIPS)*.
86. T. Sandholm and X. Wang. 2002. "(Im)possibility of Safe Exchange Mechanism Design". *Proceedings of National Conference on Artificial Intelligence (AAAI)*. pages: 338-344. Oral presentation track.



87. X. Wang and T. Sandholm. 2002. "Reinforcement Learning to Play An Optimal Nash Equilibrium in Team Markov Games", Proceedings of the 16<sup>th</sup> Neural Information Processing Systems: Natural and Synthetic conference (NIPS).
88. X. Wang, K. Hosanagar, R. Krishnan and P. Khosla. 2002. "Equilibrium Reputation Mechanism for Mobile Agent based Electronic commerce". Proceedings of ACM International conference on Autonomous Agent and Multi-agent Systems (AAMAS), pages: 308-309, Poster paper.
89. X. Wang, X. Yi, R. Krishnan, C. Siew and P. Khosla. 2002. "Mobile Agent Based Auctionlike Negotiation in Internet Retail Commerce". Book Chapter. J. Segovia, P.S. Szczepaniak, M. Niedzwiedzinski (Eds.) E-Commerce and Intelligent Methods, Studies in Fuzziness and Soft Computing, Vol. 105., pages: 342-362. ISBN 3-7908-1499-7. Published by Springer-Verlag.
90. X. Wang, P. Khosla and R. Krishnan. 2001. "Optimize Security Mechanism for Electronic Commerce". Montreal, Canada. Proceedings of the 4th International Workshop on Deception, Fraud and Trust in Agent Societies, pages: 113-124.
91. X. Wang, S. Zhang, P. Khosla, H. Kiliccote, C. Zhang and K. Lam. 2000. "Anytime Algorithm for Agent-Mediated Merchant Information Gathering". Proceedings of ACM International Conference on Autonomous Agents (ACM AA), pages: 333-340, ACM press.
92. X. Wang, H. Kiliccote and P. Khosla. 2000. "Multiagent Learning to Secure Computing Systems". Proceedings of International Conference on Multiagent System (ICMAS), pages: 459–460. Poster paper.
93. X. Yi, C. Siew, X. Wang and E. Okamoto. 2000. "A Secure Agent-based Framework for Internet Trading in Mobile Computing Environments". Journal of Distributed and Parallel Databases, 8, pages: 85-119, Kluwer Academic Publishers.
94. X. Wang, X. Yi, K. Lam, C. Zhang and E. Okamoto. 1999. "Secure Agent-Mediated Auctionlike Negotiation Protocol for Internet Retail Commerce". Proceedings of the third International workshop on Cooperative Information Agents (CIA), pages: 291-302. Springer-Verlag, Lecture Notes in Artificial Intelligence, Vol. 1652.
95. X. Wang, K. Lam and X. Yi. 1998. "Secure Agent-Mediated Mobile Payment". Proceeding of the first Pacific Rim International Workshop on Multiagent Systems (PRIMA 1998), pages: 162-173. Lecture Notes in Artificial Intelligence. Vol. 1599, Springer-Verlag.
96. X. Yi, X. Wang, K. Lam, E. Okamoto and D. Hsu. 1998. "A Secure Auctionlike Negotiation Protocol for Agent-based Internet Trading", Proceedings of the 17th IEEE Symposium on Reliable Distributed Systems (SRDS), pages: 197-203, IEEE press.
97. X. Wang, X. Yi, K. Lam and E. Okamoto. 1998. "Secure Information Gathering Agent for Internet Trading", proceedings of the 4th Australian Workshop on Distributed Artificial Intelligence in joint with the 8th Australian Joint Conference on Artificial Intelligence (DAI 1998), pages: 183-193. Australia, Lecture Notes in Artificial Intelligence, Springer-Verlag, Vol. 1544.
98. X. Yi, X. Wang and K. Lam. 1998. "A Secure Intelligent Trade Agent System", Proceedings of Trends in Distributed Systems for Electronic Commerce (International IFIP/GI Working Conference, 1998), pages: 218-228, Hamburg, Germany, Lecture Notes in Computer Science, Vol.1402, Springer-Verlag.

99. X. Yi, X. Wang and K. Lam. 1998. "An Intelligent Agent Architecture for Securing Internet Trading", Proceedings of the 14th International Information Security Conference (IFIP/SEC).